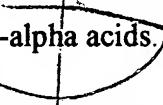


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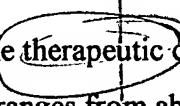
What is claimed is:

1 1. A pharmaceutical composition comprising
2 a therapeutic quantity of a COX-2 inhibitor having an IC₅₀-WHMA COX-
3 2/COX-1 ratio ranging from about 0.23 to about 3.33 with reduced
4 gastrointestinal and cardiovascular toxicity.

1 2. The Pharmaceutical composition of claim 1, wherein the COX-2
2 inhibitor comprises a botanical COX-2 inhibitor.

1 3. The pharmaceutical composition of claim 1, wherein the COX-2
2 inhibitor comprises iso-alpha acids. 

1 4. The pharmaceutical composition of claim 3, wherein the iso-
2 alpha acids are obtained from a supercritical carbon dioxide extraction of whole
3 hops.

1 5. The therapeutic composition of claim 1, wherein the dose of the
2 COX-2 inhibitor ranges from about 5 mg. to about 1,000 mg. per day. 

1 6. The pharmaceutical composition of claim 3, wherein the dose of
2 the iso-alpha acids is 100 mg. to about 1,000 mg. per day.

3

4 7. The pharmaceutical composition of claim 6 wherein the dose of
5 iso-alpha acids is 200 mg. to 600 mg.

6

7 8. The pharmaceutical composition of claim 1, further comprising a
8 mineral salt or alkali earth salt, or a mineral carbonate.

9

10 9. The pharmaceutical composition of claim 3, further comprising a
11 mineral salt or alkali earth salt or mineral carbonate.

12 10. The pharmaceutical composition of claim 9, wherein the mineral
13 salt or alkali earth salt is potassium hydroxide

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15 10. The pharmaceutical composition of claim 10, wherein the
16 amount of potassium hydroxide per dose is 25 mg. to 500 mg.

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2 selecting the pharmaceutical composition of claim 1; and
3 administering a therapeutically effective amount of the pharmaceutical
4 composition to a mammal in need thereof.

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2 A method for treating osteoarthritis, rheumatoid arthritis or acute
3 pain comprising:

4

5 administering a therapeutically effective amount of the pharmaceutical
6 composition in need thereof. | / / /

1

2 a botanical COX-2 inhibitor.

2 a botanical COX-2 inhibitor.

1

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The method of claim 11, wherein the COX-2 inhibitor comprises

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16 The method of claim 12 wherein the COX-2 inhibitor comprises

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2 iso-alpha acids.

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1 *X1.18* The pharmaceutical composition of claim 1, wherein the
2 ingredients are in sustained-release or immediate-release form, or a blend of
3 sustained-release and immediate-release.

1 *X1.19* The pharmaceutical composition of claim *17*, wherein the *18*
2 sustained-release form comprises: algal polysaccharides, chitosan, pectin,
3 glucomannan, guar gum, xanthan gum, gum arabic, gum karaya, locust bean
4 gum, keratin, laminaran, carrageenan, cellulose, modified cellulosic substances
5 such as cellulose ether derivatives; methylcellulose,
6 hydroxypropylmethylcellulose, hydroxypropylcellulose, hydroxyethylcellulose,
7 sodiumcarboxymethylcellulose, carboxymethylcellulose
8 carboxypolymethylene, acrylic resin polymers, polyacrylic acid and
9 homologues, polyethylene glycol, polyethylene oxide, polyhydroxylalkyl
10 methacrylate, polyvinylpyrrolidine, polyacrylamide, agar, zein, stearic acid,
11 hydrogenated vegetable oils, carnauba wax, or gelatin.

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1 *20.19* The pharmaceutical composition of claim 1, wherein the
2 pharmaceutical composition comprises an oral dosage forms that comprises
3 tablets, hard shell capsules, soft gelatin capsules, beads, granules, aggregates,
4 powders, gels, solids, semi-solids, or suspensions.

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1 *21.20* The pharmaceutical composition of claim 1, wherein the
2 pharmaceutical composition comprises a topical dosage form that comprises
3 lotions, transdermal delivery systems, including dermal patches, aerosols, nasal
4 mists, suppositories, salves or ointments.

III

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6 *22.21*. A method of producing an analgesic effect with reduced
7 gastrointestinal and cardiovascular toxicity in a mammal comprising
8 administering to said mammal a therapeutically effective analgesic amount of a
9 COX-2 inhibitor having an IC₅₀-WHMA COX-2/COX-1 ratio ranging from
10 about 0.23 to about 3.33.

12 22. The method of claim 21, wherein the COX-2 inhibitor is from a
13 botanical source.

14 23. The method of claim 22, wherein the COX-2 inhibitor is iso-
15 alpha acids.

16
17 25 24. The method of claim 23, further comprising a mineral salt or
18 alkali earth salt or mineral carbonate.

19 25. The method of claim 24, wherein the mineral salt is potassium
20 hydroxide.

21 26. A method for producing a fast onset of pain relief in a mammal
22 comprising administering to a mammal a therapeutically effective analgesic
23 amount of iso-alpha acids.

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